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CHINA'S MILITARY MODERNIZATION: TO WHAT EXTENT CAN THE
PEOPLE'S LIBERATION ARMY FIGHT AT THE OPERATIONAL LEVEL OF
WAR?

By

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Joint Military Operations Department.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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Introduction *A high level of operational competence is necessary to accomplish strategic objectives through the actual employment of combat forces.* Vego¹

China has been in the process of modernizing its military for the past twenty years. Since the breakup of the Soviet Union, more of the world's attention has been focused on that effort, and China is now often thought of as a potential military threat to the Asia-Pacific region, if not the United States. The focus of many analysts is on the money China is devoting to its defense budget, particularly the high-tech equipment purchases it has and is rumored to be making. But their analysis often stops there. Few go further to ask what military conflicts China could be involved in, and whether the People's Liberation Army (PLA) can integrate its new equipment with operational doctrine and training in order to support those conflicts.² The focus of military analysis should be on China's capabilities, not its intentions. In truth, the equipment purchases China has made are not significant in that the process has been piecemeal, and the numbers small. But more to the point of this essay, it is unlikely that the PLA is capable in any event of fighting effectively at the operational level of war, of carrying out major operations or campaigns in support of China's strategic objectives.

The PLA is anything but transparent, and the truth about its intentions and capabilities is often difficult to pinpoint. As a result, opinion among analysts is often divided. In order to achieve its military goals, the PLA will need to be able to fight at the operational level, to project and sustain joint forces away from its continental borders.³ This essay focuses on measures of effectiveness to determine the PLA's capability to fight at that level.⁴ It discusses China's national and military goals, and its current doctrine and strategy, proposing military conflicts in which the PLA is most likely to be engaged. It explains the PLA's

modernization program and where each of the services stands with respect to that. It then evaluates the PLA's ability to fight operationally, and discusses the impact that has on the Asia-Pacific region and the United States. Finally, it addresses considerations for U.S. operational planners at CINCPAC. The Asia-Pacific region falls within CINCPAC's geographic boundaries, and he is responsible for maintaining security and protecting U.S. interests in the region. This essay's recommendations will focus on specific items for which CINCPAC can and should take action.

National and military goals *Operational art allows a smaller, better trained and skillfully led force guided by a sound strategy to defeat, quickly and decisively, a much stronger force... Vego⁵*

China faces no credible external threats. It does have border and territorial issues with a number of countries,⁶ most of which are being handled diplomatically. China's priority is to modernize the country, and its focus is on the national economy. The military is the last of the modernization priorities.⁷ China's national strategic goals are: to be the leading power in Asia and to achieve recognition as one of five global powers; to develop a modern military capable of defending what it defines as its sovereign territory, and to protect its regional interests, particularly those in the potentially oil and mineral rich South China Sea; and to reunify with Taiwan.⁸

China's military goals are to be able to: control, protect and defend Chinese sovereign territory, to include enforcing territorial claims in the East and South China Seas; deter potential enemies such as the United States, Russia, India, Japan and ASEAN nations; develop rapid reaction forces in all services that can be projected and sustained beyond China's continental borders; control access to sea lines of communication; take Taiwan by force if necessary; and deal with border issues and internal unrest.⁹ In order to achieve those

goals, the PLA needs to be streamlined from a relatively immobile giant armed with obsolete equipment, to a power projection force equipped with modern weapons.

In trying to determine China's military capabilities, it is useful to examine under what circumstances it would be most likely to fight. The Chinese consider the United States, as the dominant military power in Asia, a threat. But the United States is also economically and technologically important to China, so there is little likelihood of direct military conflict between the two. The possibility of Japanese remilitarization focuses China's attention, but this also is unlikely in the foreseeable future. Border conflicts with countries like India and Vietnam are always possible, but diplomatic efforts appear to be fruitful. Several ASEAN nations are using their new wealth to purchase high-tech weapons to bolster their air and naval capabilities and are paying greater attention to their strategic maritime interests. But it is Taiwan and the Spratly Islands where China sees the greatest potential for conflict, and military modernization priorities appear to reflect that.¹⁰

Current doctrine *Military doctrine sits uncomfortably somewhere between intentions on one side and capabilities on the other.* Gurtov & Hwang¹¹

China's military doctrine has evolved from Mao's strategic defensive "people's war" to today's "local war under high-tech conditions."¹² The intent of the "people's war" doctrine was to maintain a huge force to fight large-scale battles against invading armies deep inside China's borders.¹³ With the emergence of prosperous economic zones along China's coast in the early 1980's, China decided it was unacceptable to allow an enemy to penetrate its borders; so the doctrine changed to "people's war under modern conditions," where the enemy would be stopped at the border by forces deployed forward defensively. In 1985, acknowledging that a large-scale invasion of China was not likely, doctrine further evolved

to one of "limited local wars."¹⁴ Conflict was more likely to be regionally based, and limited in time, space and objectives, similar to the Falkland and Arab-Israeli conflicts.¹⁵ The doctrine has since then evolved into today's, "local war under high-tech conditions." This requires the PLA to provide limited, flexible, and rapid response to defeat an enemy quickly, potentially beyond China's maritime borders.¹⁶

The Chinese were deeply influenced by the Gulf War coalition's ability to coordinate and synchronize joint and combined forces at the operational level, and by the capabilities demonstrated by high-tech equipment.¹⁷ But their concept of operations has also been influenced by the need to be able to project and sustain forces to protect their own interests off-shore, specifically, in Taiwan and the Diaoyu, Paracel, and Spratly island groups.¹⁸ This is a significant change for the PLA, transitioning from a large continental power prepared to fight deep in China's interior, to a continental and maritime power with the ability to project joint forces rapidly to defend regional interests.¹⁹

PLA modernization priorities *Operational art reinforces the need for jointness – that is, the closest cooperation among the services.* Vego²⁰

China's military modernization strategy is focused on naval and air power and on building rapid reaction units such as ground force "fist" units, the People's Liberation Army Air Force's (PLAAF) 15th Airborne Army, and the People's Liberation Army Navy's (PLAN) marines.²¹ To obtain what it needs to support its military objectives, the PLA is making incremental purchases of high-tech equipment to plug key vulnerabilities in the short term. But in the long term, it prefers to acquire the necessary technology to produce its own equipment. It will not rely on mass purchases of end use items because it cannot afford to and because it has learned in the past that it can be left in the cold when equipment suppliers

suddenly become the enemy. With a long-range outlook, the PLA intends to eventually produce enough modern equipment to complement the ongoing development of doctrine and concepts for the joint service major operations that are required by military objectives. What analysts often seem to ignore is that while China is trying to catch up, the rest of the world will not be sitting still. As rapidly as technology is developing, the Chinese are in fact falling farther behind as they strive to catch up.²²

Concern has been generated about China's increased defense spending this decade, but taking into account inflation and currency differentials, defense spending, in fact, has remained almost constant.²³ China watched the Soviet Union bankrupt itself trying to keep up militarily with the United States and will not make the same mistake. It prefers to produce indigenously, but its defense industry has not been able to keep up with technological advances. After four decades of indigenous production, Chinese industry is still turning out equipment based on forty-year old technology.²⁴ There are occasional announcements of a breakthrough, but analysis shows these are often symbolic rather than substantive. If the new indigenously produced Luh-class destroyer is as good as we would be led to believe, the PLA would not be purchasing two new Sovremenny-class destroyers from Russia.²⁵ The inability to catch up to western technology has led the Chinese to occasionally buy prototypes to reverse-engineer, but these efforts have also not met with great success. Even outright purchases, limited as they are, have not helped all that much. Buying a new piece of equipment does not guarantee one can operate it effectively.²⁶ The recent SU-27 fighter purchase serves as an example. PLAAF pilots are not permitted to fly the new aircraft at night, over water or in bad weather for fear of losing one; there are reports the Chinese are having trouble maintaining it; and the PLAAF has no experience in joint or

major operations.²⁷ One is left to wonder how much of an added capability these otherwise fine aircraft really give the PLA.

The following is a quick look at current shortcomings in each service and respective modernization priorities:

Ground forces. China is geographically divided into seven Military Regions (MR), in which 24 U.S. corps-size Group Armies (GA), with approximately 75 divisions, are located.²⁸ The Chinese know they cannot afford to modernize the entire PLA, so one division-size rapid reaction "fist" unit has been designated in each MR. These were designed to be issued the most modern equipment, and by deploying rapidly, they would enhance the PLA's power projection capability.²⁹ The ground forces constitute over two thirds of the PLA's total force, but receive the lowest priority for funding among the services.³⁰ Shortcomings include: training in joint operations; inexperience in synchronizing with the PLAN and PLAAF in battle; a preponderance of 30+ year-old weapons; leadership; transportation; and logistic support.³¹ Each MR has tailored its own forces, so there is no standardization among the GA's.³² Modernization priorities include a rumored purchase of a limited number of T-72s from Russia, and the creation of the "fist" units.³³

PLAN. The PLAN is comprised of three fleets, geographically named North, East, and South. One of the PLA's primary goals is to transform the PLAN from a coastal defense force to one capable of actively defending China's coastal and maritime interests. It must be able to support the types of joint, operational level scenarios previously described -- seizing islands in the South China Sea and defeating Taiwan.³⁴ To do this, the PLAN must be able to sustain itself a relatively long way from China and must have operational protection -- air cover and air and surface defense capability.³⁵ The PLAN has made visible signs of

progress, but these tend to be overstated. Some naval exercises are being conducted beyond coastal waters.³⁶ Recent purchases include four Kilo-class submarines and two Sovremenny-class destroyers from Russia. These will not all be delivered or operational until well into the next century, however. PLAN shortcomings include: obsolete equipment, lack of air cover, limited over-the-horizon capability, problems with indigenous production, noisy submarines with sonar developed in the 1950's and a poor operational readiness rate, rudimentary anti-submarine warfare (ASW) capability, inadequate amphibious and sustainment capability, command and control (C2) problems, electronics systems, and lack of interoperability with air and ground forces.³⁷

Modernization priorities are: improved production of indigenously built submarines, destroyers, frigates, logistics vessels, and ASW and anti-surface weapons systems; and in the very long run, possible acquisition or production of a carrier, although this last priority seems unrealistic.³⁸ The PLAN's rapid reaction force is the 1st Amphibious Brigade, made up of marines, whose mission is to seize and secure beachheads. Despite the emphasis placed on amphibious warfare, however, no priority has been given to building the sealift necessary to transport large numbers of troops.³⁹

PLAAF. Despite receiving financial priority in recent years, the PLAAF is plagued by obsolete equipment (most airplanes are of 50's and 60's vintage); lack of pilot training (pilots average 80 hours a year); lack of close air support, offensive counter-air, and battlefield interdiction capability; lack of AWACS, air-to-air refueling capability, and precision-guided missiles; C2 problems; and inexperience in joint operations.⁴⁰ These deficiencies preclude the PLAAF from being effective beyond China's continental borders, especially in geographically remote territories where air superiority is requisite for successful military

operations.⁴¹ The purchase of a limited number of SU-27 fighter jets from Russia adds little to operational capability.⁴² The PLAAF also purchased 10 IL-76 medium transports to enhance lift capability, although it may convert them to tankers or AWACS platforms.⁴³ Modernization priorities include: purchasing a limited amount of Russian aircraft and SAMs; improving air defense, ground attack, and long-range lift capability; indigenously producing an advanced fighter (F-10); and acquiring air-to-air refueling and AWACS capability to enable power projection and operational protection.⁴⁴ The 15th Airborne Army, made up of 3 divisions of airborne troops, is the PLAAF's primary rapid reaction force. It is also limited, however, by insufficient lift.⁴⁵

Operational capability. *Operational command echelon is absolutely necessary for planning, preparing, and conducting major operations and campaigns; it is the only echelon capable of providing training of large forces; operational intelligence, fires, logistical support and sustainment, and operational protection must be established theater-wide; synchronization of these functions must be planned and executed by the operational command echelon.* Vego⁴⁶

Command and control. The PLA's operational chain of command begins with the National People's Congress Central Military Commission (CMC). Only ground forces are currently represented.⁴⁷ The chain then runs from the CMC to the PLA's General Staff Department (GSD), which performs operational functions and planning, implements military modernization plans in peacetime, and in wartime directs military operations. The GSD is also the HQ for the ground forces. The 24 GA commanders are directly subordinate to their respective MR commanders, who in turn report to the GSD. The PLAAF commander in each MR serves also as a deputy MR commander, but reports operationally to PLAAF HQ. In the three MRs that contain a fleet, the fleet commander also serves as an MR deputy commander, but reports operationally to PLAN HQ. PLAN and PLAAF HQ's are both

directly subordinate to the GSD.⁴⁸ So, aside from minimal representation on MR staffs, the services are stove-piped into their respective HQs. It appears that the lowest level of unified command is the GSD. Moreover, there has not been any evidence of anything resembling a JTF being formed for exercises.⁴⁹

Training. At the PLA's National Defense University, senior officers are now being taught operational art and joint service operations.⁵⁰ At the same time, the PLA has for the past decade engaged in a number of large-scale training exercises that involve all services. Whether these are truly joint, with direct interaction between services, or merely the services engaging in individual training at the same location and time is open to question.⁵¹ In 1994, the East Sea Fleet conducted what was described as a successful "sea, land, air three-force coordinated operational" exercise. Individual tasks described had a distinctly maritime flavor, however. These included sea blockades, beach landing, ocean refueling, sea control, anti-sub warfare and vessel coordination.⁵² There are reports of service HQs being co-located, and instances of synchronized maneuver.⁵³

Training is also felt to be more realistic now, often with an OPFOR, and with an emphasis on combined arms within each service. But, while the services may train at the same time and location, there is not a joint commander controlling them at the operational level. The PLAAF and ground forces exercise tactically together often, but not at the operational level.⁵⁴ There is also no evidence the PLAN trains together with either the PLAAF or ground forces or has a system to coordinate C2. Unfortunately, independent observers are not invited to watch the exercises, so one is left to speculate. Judging from military press reports, which have a disturbing consistency to their propagandistic accounts of training events, these exercises appear to be heavily scripted and carefully controlled.⁵⁵ The PLA is,

in fact, talking the joint and major operation talk, and is at least making the intellectual effort to understand it, but one has to suspect their capability to execute operational level plans.

What has occurred in recent years is a shift in emphasis in exercises from ground to air and naval forces.⁵⁶ This is consistent with the direction of the overall modernization effort. The best example of this was the three-stage exercise that precipitated the "Taiwan Strait Crisis" of March 1996. That exercise involved all three services and the 2nd Artillery Corps (strategic rocket force) --150,000 troops, 226 aircraft and 15 ships. The first phase involved firing M-9 surface to surface missiles into the Straits. This was followed by all-service live fire exercises. Phase three was an amphibious assault of an island.⁵⁷ The PLA was training to do exactly what they would need to in order to successfully invade Taiwan -- conduct preparatory missile attacks on the island; gain sea control and air superiority in the areas around the Straits; and attack the island via amphibious assault.⁵⁸ Realistically, however, the PLA lacks the vessels required to transport the troops. It has no sustainment capability; the PLAAF cannot provide adequate air cover nor the PLAN air defense; and the C2 required to synchronize the operation does not exist. This was, nevertheless, a start, with many of the ingredients for a successful operation.

Logistics. The PLA cannot operationally sustain its force outside China's continental borders for long. It does not have the air or sealift, nor does it have the organizational structure. Over the years, each MR has independently developed its own logistics procedures, and depends on its own depots for re-supply. There are no common PLA-wide standards.⁵⁹

Movement. China is an "elephant," a continental power. Operational concepts such as force projection and rapid mobility are new to the PLA. It simply does not have the means to

project forces. Even within its borders it suffers from a lack of organic transportation, insufficient rail, and a shortage of airlift, making mobilization and movement a problem.⁶⁰

What this means...

To the region. Some argue that China will continue to build its military capability until it is able to defeat any potential threat in the region. But China historically has used its military as a continental defense force, and is still more apt to be concerned with border defense and internal security than it is with projecting power across the sea. An invasion of Taiwan is highly unlikely. The PLA has limited lift capability and does not appear to be doing much to increase it. It also has not shown that it can synchronize all of the elements it would need to in order to be successful – air assault, airborne operations, amphibious landing, control of the sea, air superiority, and operational fires. Nevertheless, the PLA and its intentions remain a concern to Taiwan, and a Taiwanese declaration of independence remains a concern to China. Relations between the two are likely to alternate between stability and crisis into the future, with neither side really wanting to fight.⁶¹

China is also not likely to start a war in the Spratly Islands, preferring to settle territorial disputes with the other five claimants diplomatically. If any of the other claimants establishes permanent occupation, however, the equation could change. Each country has already to some degree militarized the territory it claims, so the potential for escalation always exists.⁶²

Regardless of actual capabilities, as China does modernize its forces, anxiety levels in the region rise. And, with many of the countries experiencing strong economies, at least until last year, they were acquiring their own high-tech equipment from the West. That is not entirely because of perceived threats from China – many began their modernization efforts

before the PLA did. But a regional arms race nonetheless causes the potential for regional instability.⁶³

To the United States. That the PLA should modernize its obsolete force and develop the capability to defend its sovereign territory is a logical thing and should not be viewed as threatening. It may even develop a regional force projection capability, but it will not pose a direct threat to the United States, nor could it anytime in the foreseeable future be called a peer competitor. Despite its likely inability to engage in an operational level conflict beyond its borders, the PLA can still be the cause of angst for the United States. It does have a limited nuclear capability. It does possess surface-to-surface and surface-to-air short and intermediate-range missiles, and is working to improve them. Some believe that China, knowing it cannot fight operationally beyond its continental borders, nor match most potential enemies, will develop an ability to fight asymmetrically. In this scenario, it would leapfrog generations of technology, and acquire what it needs to target enemy vulnerabilities while avoiding their strengths.⁶⁴

In 1992, China declared that it owned all contested islands (Paracels, Spratlys, Diaoyu, and Taiwan), and claimed the right to deny passage to vessels through their territorial waters (though it claims it will not invoke this right). That directly affects six other countries that also claim ownership, and potentially affects indirectly any nation using contested portions of the South China Sea as lines of communication. The impact on the United States is potentially huge, in terms of SLOCs, interests, and regional allies. How the United States responds to various situations will send a powerful message to its allies in the region, who have relied on it for their security. China could use limited force to take an objective piecemeal, such as another Spratly reef -- an action the United States would have trouble

responding to militarily.⁶⁵ The same thing can happen with Taiwan. The Taiwan Relations Act gives the United States the option to respond militarily to an attack on Taiwan, without committing it. But a non-response could send a dangerous signal to its allies in the region.⁶⁶

Considerations for U.S. operational planners *Probe him and learn where his strength is abundant and where deficient. Sun Tzu*⁶⁷

There is a huge gap between what many believe to be China's hegemonic intentions and what its military capabilities truly are.⁶⁸ In assessing China as a military threat, operational planners, specifically CINCPAC, need to focus on those capabilities, not intentions. The PLA cannot project ground, air, or naval power beyond China's continental borders, specifically in the East and South China Seas, nor can it sustain such an effort. Most of its weapons systems are obsolete and inadequate for the type of operational-level joint warfare the PLA's new doctrine espouses -- quick, high-tech, high-firepower, and local peripheral wars fought by deployed rapid reaction forces. The PLA also has little experience, beyond questionably effective training exercises, in operational-level warfare. It is prudent to look well into the future to determine potential threats, but CINCPAC should not overestimate the state of the PLA's equipment and technology nor its ability to fight at the operational level.⁶⁹

Having said all that, CINCPAC planners still need to watch China closely, because it retains the potential to impact U.S. regional security interests. Because of the PLA's lack of transparency, it is hard to know exactly what its intentions and capabilities are. Although a direct confrontation with the United States is unlikely, there is evidence that some PLA planners are analyzing U.S. vulnerabilities to determine weakpoints that could be exploited by asymmetric warfare. The potential future acquisition of sophisticated systems, such as over-the-horizon targeting capability, and an anti-ship missile like the Russian Sunburn

should give planners pause before they use carriers in a future Taiwan Straits crisis scenario.⁷⁰

CINCPAC needs to use the time available while the PLA continues its military modernization to influence Chinese intentions in order to minimize the chances of conflict. He can only do this, however, if both sides understand each other much better. Very few senior PLA officers have ever been outside China, and even fewer senior-level U.S. officers have been in. In recent years, there have been a smattering of high-level officer exchange visits. CINCPAC needs to continue to take advantage of these and other opportunities to press for greater transparency of the PLA and mutual understanding of capabilities and intentions. He needs to engage them more in security dialogues, where there is an opportunity at the personal level to influence Chinese policy. In the course of these exchanges, CINCPAC needs to adopt measures to avoid the potential for military accidents or misunderstandings, and he can do this by improving mutual understanding of naval and air forces' operating procedures. Reciprocal naval ship visits have done much to enhance understanding, as has PLA participation in CINCPAC multinational security forums.⁷¹

Perhaps most important, U.S. military presence in the region must be maintained in order to insure stability, reassure allies, and in the event of conflict, allow the United States to rapidly concentrate deterrent forces. The best way the United States can signal its commitment to the region is by the presence of its forces. In the 1996 Taiwan Straits crisis, the first carrier on the scene was permanently stationed in Japan. The presence of two carriers sent a clear signal to both China and U.S. regional allies that the U.S. would stand up to its security commitments. A perceived degradation of U.S. presence would heighten

tension among countries in the region, could result in an expensive regional arms race, and might tempt the Chinese to fill the security void.⁷²

On the specific issue of Taiwan, both sides genuinely would like to see a peaceful reunification under their own terms. But China has been adamant in reserving the right to use force should Taiwan declare independence. It is important for CINCPAC, while honoring the commitments of the 1979 Taiwan Relations Act, to also convince the Chinese that the United States does not support Taiwanese independence. Planners should be doing what they can to promote peace in this area, but should at the same time be carefully watching for any signal sent by either Taiwan or China that tensions could escalate to crisis.⁷³

By virtue of its size, population, economy and history, China is a major actor in the Asia-Pacific region. Its military is undergoing an overdue modernization overhaul, not unlike that of many other countries in the region. This is more likely for the purpose of catching up so that it is able to defend its sovereign territory, as it defines that, rather than because of any designs on acquiring new territory or in becoming a regional hegemon. At present, the PLA is equipped with obsolete weapons that, combined with a lack of experience and realistic training in operational-level exercises, renders it incapable of projecting power beyond its continental borders, or sustaining such an effort even if it could. Its modernization goal is to create a more streamlined force, equipped with modern weapons, which can be mobilized and deployed rapidly in order to protect China's territorial interests in local high-tech wars. To do that, it is relying on indigenous production of weapons and equipment, supplemented with limited purchases from abroad. Certain units designated rapid reaction forces are the first to be equipped. In the very long term, China hopes its industry can equip the entire force with modernized weapons. Defense is low on China's list of priorities, however, and

there is likely to remain a large gap between intentions and capabilities. Concurrent with the industrial effort is a training program that is rhetorically aimed at improving the PLA's ability to fight large battles jointly. Whether this training can be carried out spontaneously, without orchestration, synchronized and under the C2 of a joint commander remains to be seen. Looking into the first quarter of the new century, China will develop some units that are well equipped and trained, but the majority of its military will remain a generation behind the state-of-the-art at the time. The rest of the world will not be standing still waiting for China to catch up, and China simply cannot afford, nor does it have the wherewithal, to leapfrog the entire force in any period of time short of very long. The PLA does not have the equipment, weapons, training, or C2 structure to fight at the operational level of war. CINCPAC, the U.S. operational commander in the region, will nevertheless need to watch China, since certain territorial disputes can have an effect on the United States and its allies in the region. He should therefore make it a priority to understand and influence the PLA's future shape and intentions.

ENDNOTES

¹ M.N. Vego, "Introduction to Operational Art," (Unpublished notes to lecture, U.S. Naval War College, Newport, RI: 17 March 1999), p.5.

² PLA refers to the aggregate of ground, naval, and air forces and the 2nd Artillery (strategic missile).

³ Dennis Blasko, "Evaluating China's Military Procurement From Russia," Joint Force Quarterly, Autumn/Winter 1997-98, p.92.

⁴ C2, logistics, movement; and power projection, air superiority, sea control, and interoperability.

⁵ Vego, p.92.

⁶ PLA ground forces have fought tactical border wars with India (1962) and Vietnam (1979), and naval forces seized the Paracel Islands from Vietnam (1974).

⁷ Michael L. Hendricks, 'Bet on the Come' – The People's Liberation Army Combined Arms Gamble for the 21st Century (Fort Leavenworth, KS: United States Army Command and General Staff College, 1997), p.3.

⁸ Stan Crock and Joyce Barnathan, "China's Arms Buildup: Is the Paper Tiger Growing Claws?" Business Week, 1 March 1999, p.53; "The Security Situation in the Taiwan Strait," U.S. Department of Defense Report to Congress Pursuant to the FY99 Appropriations Bill, (26 February 1999, http://www.defenselink.mil/pubs/twstrait_02261999.html [20 April 1999]), p.18; United States General Accounting Office, National Security: Impact of China's Military Modernization in the Pacific Region: Report to Congressional Committees (Washington: USGAO, 1995), p.2.

⁹ Paul Godwin and John J. Schulz, "Arming the Dragon for the 21st Century: China's Defense Modernization Program," Arms Control Today, December 1993, p.5; Michael D. Swaine, Chinese Military Modernization: Motives, Objectives, and Requirements (Santa Monica: Rand, 1997), p.325; Larry M. Wortzel, China's Military Potential (Carlisle Barracks: Strategic Studies Institute, U.S. Army War College, 1998), p.vi; Bates Gill and Lonnie Henley, China and the Revolution in Military Affairs (Carlisle Barracks: Strategic Studies Institute, U.S. Army War College, 1996), p.44; Thomas J. Hirschfeld, "Assessing China's Military Potential," East Asia: An International Quarterly, Spring 1999, p.99.

¹⁰ Swaine, p.325.

¹¹ Melvin Gurtov and Byong Moo Hwang, China's Security: the New Roles of the Military (Boulder: Lynne Rienner Publishers, 1998), p.301.

¹² Paul H. B. Godwin, "Uncertainty, Insecurity, and China's Military Power," Current History, September 1997, p.254.

¹³ China has a long history of being invaded, most recently by the Japanese. Wortzel (p.8) points out that even today, 17 of China's 24 Group Armies are positioned to defend against traditional invasion routes from the north and northeast.

¹⁴ Gurtov and Hwang, p.94.

¹⁵ Paul Lewis, "At the Crossroads," Asian Defense Journal, November 1991, p.34.

¹⁶ Godwin, p.254.

¹⁷ Valentin Shishlevskiy, "China's Defense Policy: Redefining Security Interests and Rewriting Military Doctrines," Asian Defense Journal, February 1995, p.32; Swaine, p.324.

¹⁸ 26 April 1999 DoD Report to Congress, p.2.

¹⁹ Swaine, p.327; Godwin, p.254.

²⁰ Vego, p.2.

²¹ Swaine, pp.327-8; Jane's Sentinel China and Northeast Asia (Surrey: Jane's Information Group Limited, 1998), p.1.8.5; Hendricks, p.40.

²² Godwin and Schulz, p.6; Godwin, pp.253, 257; Gill and Henly, p.47.

²³ 1995 GAO Report to Congress, p.2.

²⁴ Christopher D. Yung, People's War at Sea: Chinese Naval Power in the Twenty-first Century (Alexandria: Center for Naval Analyses, 1996), p.24.

²⁵ Godwin, p.255.

²⁶ Hirschfeld, p.98.

²⁷ Blasko, p.93; June Teufel Dreyer, China's Strategic View: the Role of the People's Liberation Army (Carlisle Barracks: Strategic Studies Institute, U.S. Army War College, 1996), pp.9-10; Crock and Barnathan, p.53.

²⁸ Edward B. Atkeson, The People's Republic of China in Transition: An Assessment of the People's Liberation Army (Arlington: The Institute of Land Warfare, 1998), p.8.

²⁹ 1995 GAO Report to Congress, p.23.

³⁰ Wortzel, p.8.

³¹ Crock and Barnathan, p.53; Swaine, p.322; 26 April 1999 DoD Report to Congress, p.9.

³² Gordon Jacobs, "The PLA - From Doctrine to Organizations," Janes Intelligence Review, August 1993, p.375.

³³ 1995 GAO Report to Congress, p.23.

³⁴ Yung, p.1; Samuel S. Kim, "China as a Great Power," Current History, September 1997, p.248.

³⁵ Wortzel, p.15.

³⁶ Kim, p.248.

³⁷ The PLAN relies on its own air assets, which suffer the same obsolescence problems as the PLAFAF. Christopher Yung (p.24) reports that the Chinese-produced Luhu-Class destroyer is less capable than the 30 year old U.S. Farragut-Class. He also says Thailand has been very disappointed with the performance of the Chinese-produced Jiangwei-Class frigates they have bought. Dreyer, pp.11-12; Congress, Senate, Committee on Foreign Relations, The Growth and Role of the Chinese Military, Hearing before the Subcommittee on East Asian and Pacific Affairs, 104th Cong, 1st sess, 11 and 12 October 1995, p.80; John Caldwell, China's

Conventional Military Capabilities, 1994-2004: an Assessment (Washington: Center for Strategic & International Studies, 1994), p.9; Crock and Barnathan, p.53; Godwin, p.256; Swaine, p.322; Yung, p.18.

³⁸ 1995 GAO Report to Congress, p.20; Swaine, pp.327-8; October 1995 Committee on Foreign Relations Hearing, p.50.

³⁹ Yung, p.13; Jacobs, p.376; Atkeson, p.2.

⁴⁰ Crock and Barnathan, p.53; Swaine, p.322.

⁴¹ October 1995 Committee on Foreign Relations Hearing, p.79.

⁴² Hendricks, pp.18-19; Dreyer, p.11. The number varies from 50 to 72, with the potential for future indigenous production is the Russians agree to transfer the technology.

⁴³ 1995 GAO Report to Congress, p.23.

⁴⁴ Viacheslav A. Frolov, "China's Armed Forces Prepare for High-tech Warfare," Defense & Foreign Affairs Strategic Policy, January 1998, p.11; 1995 GAO Report to Congress, pp.20-23; Swaine, pp.327-8; October 1995 Committee on Foreign Relations Hearing, p.50. The PLA has already purchased four batteries of SA-10s, and after witnessing the attacks on Baghdad, deployed them around Beijing.

⁴⁵ 26 April 1999 DoD Report to Congress, pp.5-6.

⁴⁶ Vego, p.41.

⁴⁷ Janes, p.1.9.3. The CMC is made up of high ranking defense and party officials to include the President, Defense Minister, Chief of General Staff, and the heads of the three headquarters departments. The Communist Party's Military Commission comprises the same members.

⁴⁸ Kenneth W. Allen, People's Republic of China People's Liberation Army Air Force (Washington: Defense Intelligence Agency, 1991), p.2-15; Janes, pp.1.9.3, 1.12.1.

⁴⁹ The command structure is not as unnatural as it may seem. Historically, the PLAN and PLAAF existed to support the ground forces. The C2 naturally reflected that. But now they have independent roles, and they are struggling to find an appropriate joint C2 structure.

⁵⁰ 26 April 1999 DoD Report to Congress, p.13.

⁵¹ Gill and Henley, p.50.

⁵² Janes, p.1.13.2.

⁵³ Gill and Henley, p.50.

⁵⁴ 26 April 1999 DoD Report to Congress, pp.13-14; Janes, p.1.12.4.

⁵⁵ Hendricks, p.42. For the first half of this decade, author read most of the items on training and exercises published by military newspapers in each province of China. The articles were so similar to each other one was convinced they were written by the same author. They described incredibly successful joint operations that one knew intuitively the PLA was incapable of. At times they discussed use of equipment that the PLA had not yet procured or put into operation. The articles also often reflected a certain naivete. One memorable piece raved about a rapid deployment unit squad that was training to deploy via airlift. The squad successfully boarded an

aircraft via the ramp, and then exited it. The plane never left the ground. But from the tone of the article, one would have thought fire had been discovered.

⁵⁶ Janes, p.1.10.9.

⁵⁷ Rick M. Gallagher, The Taiwan Strait Crisis (Newport: U.S. Naval War College, 1997), pp.6,13; Gurtov and Hwang, p.274.

⁵⁸ Gallagher, p.13.

⁵⁹ 26 April 1999 DoD Report to Congress, p.14.

⁶⁰ Gill and Henley, p.49.

⁶¹ Dennis Van Vranken Hickey, "The Taiwan Strait Crisis of 1996: Implications for U.S. Security Policy," Journal of Contemporary China, November 1998, p.412; Atkeson, p.2; Gill and Henley, p.56; Gertz, p.79; Hirschfeld, p.96; 26 April 1999 DoD Report to Congress, p.17;

⁶² Atkeson, p.7; Gurtov and Hwang, p.281.

⁶³ 1995 GAO Report to Congress, pp.3, 10, 45.

⁶⁴ 26 April 1999 DoD Report to Congress, pp.2, 18; Wortzel, p.11; October 1995 Committee on Foreign Relations Hearing, p.70.

⁶⁵ Some believe China will continue to do this very thing, taking limited military action that is not likely to prompt a reaction from the U.S. This could put the latter in a very awkward position in terms of maintaining its credibility, especially if the limited operation were to continue. October 1995 Committee on Foreign Relations Hearing, p.73; Gertz, p.79.

⁶⁶ Congress, Senate, Select Committee on Intelligence, People's Republic of China, Hearing before the Select Committee on Intelligence, 105th Congress, 1st sess., 18 September 1997, p.42; Dreyer, p.15; October 1995 Committee on Foreign Relations Hearing, pp.70-71; Gertz, p.79; Hickey, p.405.

⁶⁷ Sun Tzu, The Art of War, Trans. Samuel B. Griffith, (New York: Oxford University Press, 1971), p.100.

⁶⁸ Barnathan, p.53.

⁶⁹ Kim, p.247; Yung, p.52.

⁷⁰ Wortzel, p.22; 1995 GAO Report to Congress, p.25; September 1997 Select Committee on Intelligence Hearing, pp.36,44.

⁷¹ October 1995 Committee on Foreign Relations Hearing, pp.10-11; 1995 GAO Report to Congress, pp.5,45-6.

⁷² September 1997 Select Committee on Intelligence Hearing, p.43; Hickey, pp.411, 414; Godwin, p.257; Godwin and Schulz, p.7; 1995 GAO Report to Congress, p.5.

⁷³ Hickey, p.411; Atkeson, p.17.

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